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Transactional leadership and project success: the moderating role of goal clarity

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Abstract

Though transactional leadership is considered as a necessary precondition for transformational leadership to be effective, less attention has been paid to the role of transactional leadership in project success. Using 224 development projects of the Non-Governmental Organization (NGO) sector in Ethiopia, the present study examines the relationship between transactional leadership and project success and the moderating role of project goal clarity. The findings of the study indicate that contingent reward in transactional leadership is positively related to project success. Further, project goal clarity moderates the relationship between contingent reward and project success such that contingent reward becomes a stronger predictor for projects that have high goal clarity than low goal clarity. Implications of the findings, limitations of the study and directions for future research are discussed.

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Keywords: contingent reward; project goal clarity; project success; transactional leadership

1. Introduction

Critical Success Factors (CSFs) have received ample attention in project management literature during the last five decades. This is because successful project management depends on identifying key determinants of project success, usually termed CSFs [1-3]. Research in this tradition has increased our understanding of factors critically influencing project success. One of the CSFs identified is the leadership style of the project manager. In this respect, several studies [4-7] show that transformational and transactional leadership styles are relevant to project management.

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Previous empirical studies have given special attention to transformational leadership, and these studies demonstrate that transformational leadership has a positive significant effect on project success [8-10]. Though transactional leadership is considered as a necessary precondition for transformational leadership to be effective, less attention has been paid to the role of transactional leadership in project success [11]. One of the reasons that project management literature overlooks the role of transactional leadership in project success could be its negligible positive and/or negative effects on outcome variables including project success [11]. Tyssen and his colleagues conceptualize that project characteristics could accentuate the need for transactional leadership in temporary organizations. They call for empirical studies that could confirm to what extent project goal clarity moderates the association between transactional leadership and project success [12].

Thus, the core argument of this study is that project goal clarity can play a significant role in moderating the effect of transactional leadership on project success. Using a field survey of 224 NGO sector development projects in Ethiopia, the objectives of this paper are, therefore, twofold. The first objective is to investigate the effect of transactional leadership on project success. The second objective is to examine the potential moderating role of project goal clarity in the relation between transactional leadership and project success. In the study, development projects are those interventions that aim to reduce poverty and improve the well-being of rural communities[13] .

2. Theoretical Framework and Hypothesized Model

2.1. Transactional leadership style

Leadership style is a relatively stable pattern of behavior exhibited by a leader when dealing with employees [14, 15]. There is no one typology of leadership styles. The Full Range of Leadership Theory, as one of the most widely recognized leadership theories, encompasses the transformational, transactional and laissez-faire styles [16].

Though there are frequent revisions in the theory of full-range leadership, the theory addresses nine single-order factors which cover five transformational leadership factors, three transactional leadership factors and one laissez-faire leadership factor.

Transactional leadership is an exchange process based on the fulfillment of contractual obligations and is typically represented as setting objectives and monitoring and controlling outcomes. It has the following three first-order factors: (a) Contingent reward leadership that focuses on clarifying role and task requirements and providing followers with material or psychological rewards in exchange for the fulfillment of contractual obligations; (b) active management by exception (i.e., active corrective transactions) refers to the active vigilance of a leader whose goal is to ensure that standards are met; and (c) passive management by exception (i.e., passive corrective transactions) is a situation in which leaders take action after a behavior has created serious problems [17, 18].

Tyssen, Wald, and Spieth [12] point out two criticisms on this three-factor measure of transactional leadership. One relates to the overlapping measure between passive management by exception in the transactional and laissez-faire styles. The other concerns the negative correlation between active management by exception and passive management by exception although they are supposed to measure related concepts. As a result, only a two-factor model of transactional leadership (contingent reward and active management by exception) was considered in this study.

2.2. Hypothesized model and research hypotheses

Transactional leadership builds upon contingent reinforcement in which followers are motivated by their leaders' promises, rewards and praises. Transactional leaders seek to inspire followers by appealing to their self-interests. Such leaders motivate subordinates to realize expected performance levels through helping them to recognize task responsibilities, identify goals and develop confidence about performing the desired expected levels of performance [19]. Transactional leadership emphasizes the task-related exchange of actions and rewards between follower and leaders. It relates to path-goal theory, whereby there is a series of leader-follower bargains and exchanges that give the necessary motivation for followers to pursue the path set [12].

Taking the project based-organizations into account, Tyssen et al. [12] mention the importance of contingent reward and active management by exception behaviors of project managers. Through contingent rewards, the leader

provides followers with material and psychological rewards contingent upon their performance as stated in contractual obligations. By providing contingent rewards, transactional leadership could inspire a reasonable degree of involvement, loyalty, commitment and performance from followers. Through management by exception, a transactional leader is vigilant to ensure that followers meet predetermined standards. This forms the basis for the first hypothesis of this paper, which can be stated as follows:

Hypothesis 1: Transactional leadership (contingent reward and active management by exception) would positively influence project success.

Referring to the conceptual proposition developed by Tyssen et al. [12], transactional leadership becomes more appropriate and effective in producing desirable outcomes in times of relative goal stability. That means transactional leadership behavior will be effective for projects that have strong goal clarity. The main argument of this study is therefore that project goal clarity can play a moderating role in the relation between the dimensions of transactional leadership (contingent reward and active management by exception and project success. Thus, the second hypothesis of this study is:

Hypothesis 2: Project goal clarity will moderate the relation between transactional leadership (contingent reward and active management by exception) and project success, such that the relationship between the two will be more positive and strong under high goal clarity than under low goal clarity.

The graphical representation of the research model is presented in Figure 1.

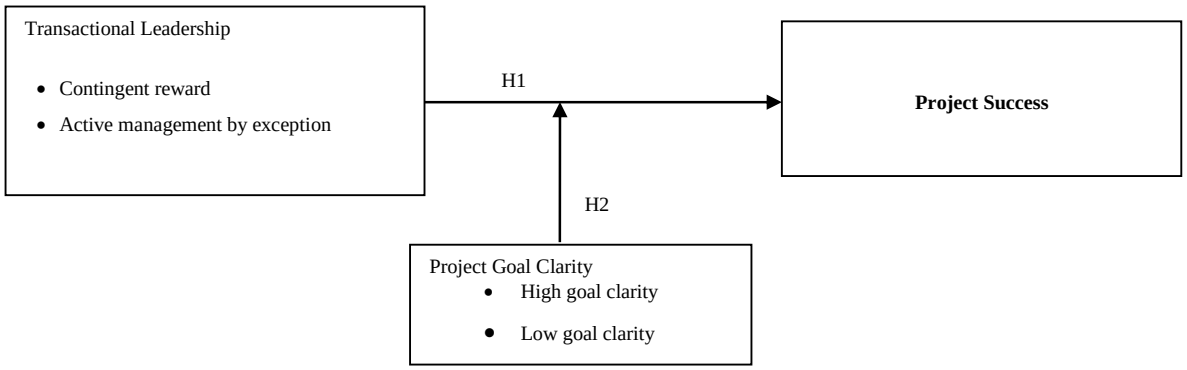

Figure 1. Conceptual framework of the study (Sources. Elaborated by the author based on Hinkin and Schriesheim [11] and Tyssen et al. [12])

3. Methods

3.1. Research setting and participants

The research setting is NGOs where projects are undertaken on a regular basis and they represent project-based organizations. Data for individual projects was gathered from project managers in the sampled NGOs.

3.2. Sample and data collection

According to the recent database from Federal Charities and Societies Authority (an NGO sector governing agency), there were 2,319 formally registered NGOs in Ethiopia. From this database, we found a list of 331 NGOs that are directly engaged in development projects. As these NGOs were geographically dispersed, a two-stage sampling technique was employed to obtain the required sample size [20]. In the first stage, 100 NGOs were randomly selected [21]. Then we obtained 300 project managers, whom we invited to participate in a survey delivered by hand to each respondent and collected later by hard copy or by e-mail. Each project manager was explicitly informed that, while filling out the questionnaire, he/she should pick up only one project that was completed in the last 5 years. Out of 300 distributed questionnaires, 236 participants returned the survey. After

dropping some questionnaires with critical missing data, we analyzed 224 development projects, representing a usable response rate of 74.7%. The data collection period was from February 2015 to April 2015.

3.3. Measures

Project success was measured by four items comprising two items of efficiency requirements (cost and schedule performance), one item of project effectiveness and one item of end-user satisfaction. This approach is in line with previous empirical works [22-24]. A project manager assessed each of these items on a Likert scale of 1–5 ranging between "strongly disagree" and "strongly agree."

In measuring the leadership styles, the Multi-Factor Leadership Questionnaire (MLQ) has become popular and well-validated instrument in leadership research. The MLQ includes 36 items measuring three core leadership styles: transformational, transactional and laissez-faire (Hinkin & Schriesheim, 2008). In order to increase the internal consistency and validity of MLQ measures, some studies [25-27] recommend an improved version of MLQ. Accordingly, the measures for transactional leadership are adapted from [28, 29]. The questionnaire entails three items for contingent reward and four items for active management by exception. The project managers were asked to rate their leadership behavior on a five-point Likert scale (ranging from "not at all" to "frequently, if not always"). This is in line with previous studies [25, 30] that employ a self-evaluation version. For a measure of project goal clarity, we borrowed three items from Hoegl and Parboteeah [31]. The measurement items for each of the constructs contained in the questionnaire are indicated in Appendix 1.

In addition to the above three main constructs, some control variables were considered in the study, and they were measured as follows: gender as a binary variable (0=female, 1=male); level of education as a binary variable (0=first degree, 1=Master's degree); experience as a continuous variable measured by years of experiences as a project manager; firm age as a continuous variable measured by service years of the NGO; firm size as a continuous variable measured by the number of employees; firm category as a dummy variable (0=local NGO, 1=international NGO); project duration as a continuous variable measured by the duration of a project in months; project team size as a continuous variable measured by the number of team members; and type of project as one of six categorical variables (Health care service projects was the reference category). The seven development projects identified by the survey are food security, water supply, sanitation and hygiene projects (WASH), environmental-related, alternative low-cost energy, capacity building, community/family-based child development and health care service.

3.4. Data Analysis

In this study, multiple and hierarchical regression techniques were applied to test the hypotheses of the study. To test the relationship between transactional leadership (contingent reward and active management by exception) and project success (Hypothesis 1), multiple regression analyses were conducted. In addition to the multiple regression, hierarchical regression was used to test the effect of transactional leadership on project success by considering the covariate variables. For this purpose, the control variables (project team size, project duration, firm's size, firm's age and demographic variables of project managers) were entered in Step 1. Following this, all main effect terms of the proposed predictors, namely the two dimensions of transactional leadership (contingent reward and active management by exception) were entered in Step 2 of the regression equation.

To test hypothesis 2, the moderating effect of project goal uncertainty on the relationship between transactional leadership (contingent reward and active management by exception) and project success, a three-step hierarchical regression analysis was conducted [32]. The control variables were entered in Step 1. All the main effect terms of the proposed predictors, namely transactional leadership and project goal clarity, were entered in step 2 in the regression equation. Then the interaction terms were entered in Step 3. In order to standardize the results, the centered values of the predictor variables were used. We applied conventional procedures for plotting simple slopes to interpret the interaction terms [33].

4. Results

Results are described in the order in which the analyses were conducted. First, we present validity and reliability analyses of the scales. Second, we report the regression results for the main effects of transactional leadership and project goal clarity. Third, we present the results of a three-stage moderation analysis.

4.1. Validity and reliability analyses

For all the main constructs of the study, the results of Principal Components Factor Analysis (PCFA) produced acceptable values for a sample size test, with KMOs above 0.5 [34]. For four items of project success, PCFA resulted in a one-factor model accounting for 62.2% of total variance explained in the data set, and all items had greater than 0.77 factor loadings. The three items of contingent reward explained 70.0% of variability in the data set, with factor loadings that range from .818 to .859. For active management by exception, a PCFA produced a factor that explains below 50%. This measure had also a Cronbach's alpha of .65, which is below an acceptable value. As a result, the construct of active management by exception was excluded from further analysis. The goal clarity factor explained 81.3% of the variability in its three items, with factor loadings that range from .881 to .915.

After the exploratory analysis, we checked for discriminant validity to test whether the constructs are different from each other by following the procedure recommended by Hair et al. [35]. Based on the discriminant validity exercise, we dropped one item of project success since it was cross-loaded to the goal clarity measure. Thereafter, the Promax oblique rotation for the three major constructs (project success, contingent reward and project goal clarity) produced higher loading values for each indicator exceeding 0.8 except for one item of project success (.550), showing that the constructs are distinct from each other.

The analyses of internal homogeneity also showed acceptable results [34, 35]. Cronbach's alphas for project success, contingent reward, and project goal clarity measures were .751, .782, and .884 respectively (see Table 1). Then, we computed composite means for each of the constructs by averaging their respective indicators (items). Table 1 presents the revised number of items and their Cronbach's alphas as well as the means and standard deviations for the three core composite constructs used in this study.

Table 1. Number of items, Cronbach's alpha, means and SD.

Construct	Number of items	Cronbach's alpha	Mean	SD
Project success	3	.751	4.06	.81
Transactional Leadership				
Contingent reward	3	.782	3.80	.73
Project goal clarity	3	.884	4.39	.68

Table 2 presents inter-correlations among the variables. Significant and positive correlations existed among contingent reward, project goal clarity and project success. Contingent reward and project success were significantly correlated with each other ($r= 0.219$, $p<0.01$). Project goal clarity was also significantly correlated with project success ($r=0.520$, $p<0.01$) and contingent reward ($r=0.183$, $p<0.01$).

Table 2. Correlations of the main study variables.

Variable	1	2	3
1. Project success	1		
2. Contingent reward	.219**	1	
3. Project goal clarity	520**	.183**	1

Notes: **. Correlation is significant at the 0.01 level (2-tailed), sample size (N) = 224 development projects

4.2. Hypotheses testing

Hypothesis 1 states that contingent reward positively influences project success. Results of the hierarchical regression analysis (unstandardized regression coefficients) are indicated in Table 3. In step 1, only the control variables were included in the model and only gender was found to be significant in explaining the variability in project success ($\boldsymbol{\beta}$=0.337, p<0.05). The result of step 2 indicates that contingent reward has a significant positive relationship with project success ($\boldsymbol{\beta}$=0.203, p<0.05).

Table 3. The effect of contingent reward on project success.

	(Step1) Project success	(Step2) Project success
Gender	0.337*	0.266
Education	-0.125	-0.122
Experience	0.00796	0.00881
Firm age	-0.00353	-0.00481
Firm size	-0.0000867	-0.0000526
Firm category	0.0730	0.0637
Project duration	-0.00564	-0.00625
Project team size	0.00124	0.000441
Contingent reward		0.203*
N	224	224
R^2	0.080	0.143

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; from these seven types of development projects identified from the survey, six dummy variables of project types were created and used as control variables for hypothesis testing. The values are not presented in this table or the subsequent table for the purpose of brevity.

Hypothesis 2 requires a moderation analysis, in which we followed a three-step procedure outlined by Baron and Kenny [32]. Hierarchical regression (using unstandardized regression coefficients) results are presented in Table 4. In the first step, gender was the only control variable that had a significant positive effect on project success. In step 2, the inclusion of the main effects for contingent reward and project goal clarity was significant, with a ΔR^2 of 0.260. As predicted, the interaction between contingent reward and project goal clarity, entered in step 3, was significant, with a ΔR^2 of 0.063.

Table 4. The moderating role of goal clarity on project success.

	(Step1) Project success	(Step2) Project success	(Step3) Project success
Gender	0.337*	0.295*	0.243
Education	-0.125	-0.0967	-0.0778
Experience	0.00796	0.0122	0.0157
Firm age	-0.00353	-0.00179	-0.00214
Firm size	-0.0000867	-0.0000794	-0.0000637
Firm category	0.0730	0.138	0.0765
Project duration	-0.00564	-0.00251	-0.00297
Project team size	0.00124	-0.00244	-0.00306
Contingent reward		0.143	0.113
Goal clarity		0.573***	0.571***
Contingent reward-centered* Goal clarity-centered			0.453***
N	224	224	224
R^2	0.08	0.340	0.403
ΔR^2	0.08	0.260	0.063
F. change	1.131	35.219	15.404
Sig. F. change	0.334	0.000	0.000

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5. Discussion

The study shows that a project manager's contingent reward of transactional leadership positively influences project success. Chiefly, this study indicates that project goal clarity moderates the positive relation between contingent reward and project success. Figure 2, depicting the interaction between contingent reward and project goal clarity, shows that when the level of goal clarity is low, project success decreases as the practices of contingent reward increase. In contrast, when the level of project goal clarity is high, project success increases as the practices of contingent reward increase. The major finding of the present study, thus, was that contingent reward of transactional leadership becomes more positively related to project success as the level of project goal clarity increases. Our finding demonstrated that 6.4% of the variance in project success is explained by the interaction of contingent reward and goal clarity. This finding is substantial, as significant interaction terms are rare in organizational research [36].

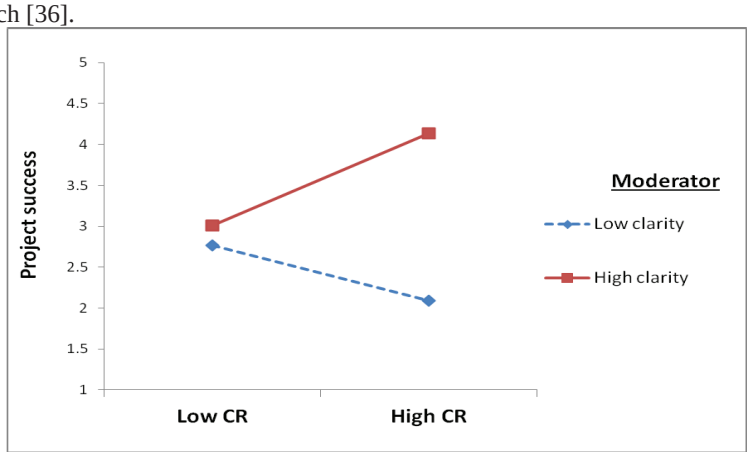

Figure 2. Interaction of contingent reward (CR) and project goal clarity on project success.
Notes: Predictions are based on regression equations presented in Table 6.

The theoretical implication of the findings is of great importance for leadership studies, which have underemphasized the role of project managers in project success [12, 37]. The relative neglect of the leadership role in explaining project success is surprising, but may be explained by the traditional emphasis in the project management literature on "hard" factors [38, 39]. This study shows that leadership contributes to project success in several ways, and it seems likely that additional research will unveil even more underlying conditions whereby the leadership factor plays a role.

The main practical implication of the findings is that contingent reward of transactional leadership may result in high project success only for projects having a clear goal. Project success may actually drop when the level of project clarity is low, as a project manager exhibits contingent reward as a dominant leadership style. In other words, project success with a low level of goal clarity at the outset may suffer when a project manager follows transactional leadership, particularly contingent reward. This implies that a project manager should consider the level of project clarity at the outset of the project in order to employ contingent reward in a transactional leadership style.

There are several limitations of the present study. First, the results are based on subjective ratings, as perceived by project managers, instead of objective data regarding project success. Though supervisory ratings are prone to biases, there is evidence that objective measures and ratings are consistently similar [40]. A second limitation is the cross-sectional research design, which limits inferences about causal relations. We therefore recommend that longitudinal studies be conducted on the effects of project managers' transactional leadership and goal clarity on project success over the project lifecycle. Alternatively, future studies could benefit from experimental designs, which by manipulating variables are better able to identify causal relationships. The third limitation concerns our data collection instruments. Since we employed a single method of data collection (self-report questionnaires) for

different constructs from the same source at the same time, common method bias could be a concern [41]. However, moderator effects are less susceptible to common method variance than are main effects [42]. The fourth limitation of our study is that we used a self-reported form to measure transactional leadership that may raise the question of reliability. However, self-ratings of managers on their leadership behavior were in conformity with the ratings of their subordinates in previous studies, suggesting that self-reports of leadership are valid measures [43, 44]. Regardless of this, future research would benefit from a design that directly targets project team members in measuring project leadership behaviors.

6. Conclusions

Project leadership is one of the important factors influencing the success of temporary organizations. In the context of development projects, this study confirms that contingent reward of transactional leadership has a positive significant effect on project success. More importantly, the study indicates that project goal clarity moderates the relation between contingent reward and project success.

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Appendix 1. Measurement items

Constructs and items
Project success: (1) strongly disagree – (5) strongly agree
1. The project was completed on time.
2. The project was completed according to the budget allocated.
3. Given the problem for which it was developed, the project seems to do the best job of solving that problem.
4. Project specifications were met by the time of handover to the target beneficiaries.
Transactional leadership
Contingent reward
1. I tell team members what to do if they want to be rewarded for their work.
2. I provide recognition or rewards when team members reach their goals.
3. I call attention to what team members can get for what they accomplish.
Active Management-by-exception
1. I concentrate my full attention on dealing with mistakes and failures.
2. I focus my attention on irregularities, exceptions and deviations from standards.
3. I closely monitor performance for errors needing correction.
4. I keep track of all mistakes made by the team members.
Project goal clarity: (1) strongly disagree – (5) strongly agree
1. There were clear and comprehensible goals for this project.
2. The goals and requirements of the customers were clear for this project.
3. The goals and requirements of the management were clear for this project.

References

1. Aladwani AM. An integrated performance model of information systems projects. *J Manag Inf Syst* 2002;**19**(1):185-210.
2. Ika L, Diallo A, Thuillier D. Critical success factors for World Bank projects: An empirical investigation. *Int J Proj Manag* 2012;**30**(1):105-116.
3. Söderlund J. Pluralism in project management: Navigating the crossroads of specialization and fragmentation. *Int J Manag Rev* 2011;**13**(2):153-176.
4. Keegan AE, Den Hartog DN. Transformational leadership in a project-based environment: A comparative study of the leadership styles of project managers and line managers. *Int J Proj Manag* 2004;**22**(8):609-617.
5. Müller R, Jugdev K. Critical success factors in projects: Pinto, Slevin, and Prescott – the elucidation of project success. *Int J Managi Proj Bus* 2012;**5**(4):757-775.
6. Müller R, Turner R. Leadership competency profiles of successful project managers. *Int J Proj Manag* 2010;**28**(5):437-448.
7. Scott-Young C, Samson D. Project success and project team management: Evidence from capital projects in the process industries. *J Oper Manag* 2008;**26**(6):749-766.
8. Anantatmula VS. Project manager leadership role in improving project performance. *Eng Manag J* 2010;**22**(1):13-22.

9. Riaz A, Tahir MM, Noor A. Leadership is vital for project managers to achieve project efficacy. *Res J Recent Sci* 2013;**2**(6):99-102.
10. Yang L-R, Huang C-F, Wu K-S. The association among project manager's leadership style, teamwork and project success. *Int J Proj Manag* 2010;**29**(3):258-267.
11. Hinkin TR, Schriesheim CA. A theoretical and empirical examination of the transactional and non-leadership dimensions of the multifactor leadership questionnaire (MLQ). *Leadersh Q* 2008;**19**(5):501-513.
12. Tyssen AK, Wald A, Spieth P. The challenge of transactional and transformational leadership in projects. *Int J Proj Manag* 2014;**32**(3):365-375.
13. Aga DA, Noorderhaven N, Vallejo B. Transformational leadership and project success: The mediating role of team-building. *Int J Proj Manag* 2016;**34**(5):806-818.
14. Amirul S, Daud H. A study on the relationship between leadership styles and leadership effectiveness in Malaysian GLCs. *Europ J Bus Manag* 2012;**4**(8):193-201.
15. Molero F, Cuadrado I, Navas M, Morales J. Relations and effects of transformational leadership: A comparative analysis with traditional leadership styles. *Span J Psychol* 2007;**10**(02):358-368.
16. Sohmen VS. Leadership and teamwork: Two sides of the same coin. *J IT Econ Dev* 2013;**4**(2):1-18.
17. Antonakis J, Avolio BJ, Sivasubramaniam N. Context and leadership: An examination of the nine-factor full-range leadership theory using the multifactor leadership questionnaire. *Leadersh Q* 2003;**14**(3):261-295.
18. Judge TA, Piccolo RF. Transformational and transactional leadership: A meta-analytic test of their relative validity. *J Appl Psychol* 2004;**89**(5):755-768.
19. Lo M-C, Ramayah T, Min HW, Songan P. The relationship between leadership styles and organizational commitment in Malaysia: Role of leader–member exchange. *Asia Pacific Bus Rev* 2010;**16**(1-2):79-103.
20. Babbie E. *The basics of social research*. 12 ed. Belmont: Wadsworth; 2010.
21. Bartlett J, Kotrlik J, Higgins C. Organizational research: Determining appropriate sample size in survey research. *Info Technol Learn Perfom J* 2001;**19**(1):43-50.
22. Beringer C, Jonas D, Kock A. Behavior of internal stakeholders in project portfolio management and its impact on success. *Int J Proj Manag* 2013;**31**(6):830-846.
23. Hoegl M, Gemuenden HG. Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organ Sci* 2001;**12**(4):435-449.
24. Suprapto M, Bakker HL, Mooi HG. Relational factors in owner–contractor collaboration: The mediating role of teamworking. *Int J Proj Manag* 2015;**33**(6):1347-1363.
25. Doeleman H, ten Have S, Ahaus K. The moderating role of leadership in the relationship between management control and business excellence. *Total Qual Manag Bus Excell* 2012;**23**(5-6):591-611.
26. Hartog DN, Muijen JJ, Koopman PL. Transactional versus transformational leadership: An analysis of the MLQ. *J Occup Organ Psych* 1997;**70**(1):19-34.
27. Tejeda MJ, Scandura TA, Pillai R. The MLQ revisited: Psychometric properties and recommendations. *Leadersh Q* 2001;**12**(1):31-52.
28. Arif MI, Mehmood Z. Leadership and HRM: Evaluating new leadership styles for effective human resource management. *Int J Volunt Nonprofit Org* 2011;**2**(15):236-243.
29. Vinger G, Cilliers F. Effective transformational leadership behaviours for managing change. *SA J Hum Resour Manag* 2006;**4**(2):1-9.
30. Boerner S, Eisenbeiss SA, Griesser D. Follower behavior and organizational performance: The impact of transformational leaders. *J Leadersh Org Stud* 2007;**13**(3):15-26.
31. Hoegl M, Parboteeah KP. Goal setting and team performance in innovative projects: On the moderating role of teamwork quality. *Small Group Res* 2003;**34**(1):3-19.
32. Baron R, Kenny D. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J Pers Soc Psychol* 1986;**51**(6):1173-1182.
33. Dawson JF, Richter AW. Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *J Appl Psychol* 2006;**91**(4):917.
34. Field A. *Discovering statistics using SPSS*. London: Sage Publications; 2009.
35. Hair J, Black W, Babin B, Anderson R. *Multivariate data analysis*. 7 ed. New Jersey: Pearson Prentice Hall; 2010.
36. Liden RC, Wayne SJ, Bradway LK. Task interdependence as a moderator of the relation between group control and performance. *Hum Relat* 1997;**50**(2):169-181.
37. Turner, Müller R. The project manager's leadership style as a success factor on projects: A literature review. *Proj Manag J* 2005;**36**(1):49-61.
38. Cooke-Davies T. The "real" success factors on projects. *Int J Proj Manag* 2002;**20**(3):185-190.
39. Leonard A, van Zyl D. Social relationships in it project teams: Its role, complexity and the management thereof. *Int J Inf Syst Proj Manag* 2014;**2**(1):21-39.
40. Nathan BR, Alexander RA. A comparison of criteria for test validation: A meta analytic investigation. *Pers Psychol* 1988;**41**(3):517-535.
41. Podsakoff PM, Organ DW. Self-reports in organizational research: Problems and prospects. *J Manag* 1986;**12**(4):531-544.
42. Podsakoff PM, MacKenzie SB, Podsakoff NP. Sources of method bias in social science research and recommendations on how to control it. *Annu Rev Psychol* 2012;**63**:539-569.
43. García-Morales VJ, Jiménez-Barrionuevo MM, Gutiérrez-Gutiérrez L. Transformational leadership influence on organizational performance through organizational learning and innovation. *J Bus Res* 2012;**65**(7):1040-1050.
44. Thite M. Leadership styles in information technology projects. *Int J Proj Manag* 2000;**18**(4):235-241.